



American Chemical Society Susquehanna Valley Section

FEBRUARY 2016 NEWSLETTER

The four hundred and twenty eighth meeting of the Susquehanna Valley Section of the American Chemical Society will be held on Wednesday, February 10th, 2016 in room 203 of the Center for Natural and Health Sciences Building on the campus of Marywood University in Scranton, PA. The meeting will begin at 7:00 PM and will be preceded by a dinner at 5:30 PM at Grande Pizza in Dunmore, PA. The speaker will be Dr. Beth Haas of Misericordia University in Dallas, PA.

“Random walks in virtual places: Modeling molecular diffusion on bacterial membranes”

Dr. Beth Haas
Department of Chemistry and Biochemistry
Misericordia University
Dallas, PA

Molecular diffusion is critical to living systems: proteins cannot be produced without the diffusion of DNA transcription factors, DNA repair proteins diffuse through cells to find and correct errors, and nutrients diffuse into the cell. Such processes occur on the nanometer scale, however, and are therefore beyond the limits of traditional light microscopy. Single-molecule fluorescence microscopy can reach beyond the diffraction limit and observe these incredibly small motions in live cells, but tracking and diffusion measurements for certain molecules, such as membrane-bound proteins, are still limited by the distortion caused by the confinement and curvature of the cell membrane. Models of diffusion-dependent biological mechanisms rely on accurate data; distortion artifacts jeopardize that accuracy.

My research explores ways to overcome these distortion effects using Matlab simulations. For example, one can model the diffusion of a protein moving on a cell membrane and compare the known diffusion coefficient with the apparent diffusion coefficient to quantify the degree of distortion. Alternatively, one could reverse the process to “undistort” single-molecule tracking data. Competing models, alternate applications and future challenges will also be discussed.

Dr. Beth Haas is an Assistant Professor of Chemistry at Misericordia University. She has a B.S. in Chemistry from Indiana University of Pennsylvania, where she worked with Dr. Charles Lake. Dr. Haas received her M.S. and Ph.D. in Chemistry in the lab of Dr. Julie Biteen at the University of Michigan. In addition to biophysical chemistry, her research interests include solid state synthesis, semiconducting and fluorescent materials, and chemistry education.

DINNER: The meeting will be preceded by dinner at 5:30 PM at [Grande Pizza](#) at 301 S. Blakely St. in Dunmore, PA. Their telephone number is 570-207-2222. Dinner will be ordered from the menu and entrees average \$15 per person. If you are interested in attending the dinner, please RSVP Mary Lynn Grayeski by email (grayeski@marywood.edu) or phone 570-348-6211 x4598 by Tuesday, February 9, 2016.

DIRECTIONS TO GRANDE PIZZA:

Grande Pizza is at 301 S. Blakely St. in Dunmore, PA. From I-81 N. take exit 187/186 to Drinker St. Turn left onto E. Drinker Street. Stay on E Drinker Street for about 1 mile, then turn left onto S. Blakely St. Grande Pizza is 3 blocks on your left at Green Ridge St./Potter St.

DIRECTIONS FROM THE RESTAURANT TO THE UNIVERSITY:

The University entrance is near 1299 Seminary St, Scranton, PA 18509. Make a right onto S. Blakely St. and follow it to Drinker Street. Make a left onto W Drinker St. and follow for about 2 miles until it merges with Electric Street. Proceed to second traffic light. At this intersection, turn right onto North Washington Avenue, and proceed four blocks. At third stop sign on North Washington, turn right onto Seminary Street. Proceed up the hill to the Memorial Arch. Parking areas are located in the Visitor Lot behind the Center for Athletics and Wellness.

DIRECTIONS TO THE UNIVERSITY:

The University entrance is near 1299 Seminary St, Scranton, PA 18509. From I-81 N. take exit 187/186 to Drinker St. Turn left onto E. Drinker Street. Turn right onto Drinker Street which merges with Electric Street. Proceed to second traffic light. At this intersection, turn right onto North Washington Avenue, and proceed four blocks. At third stop sign on North Washington, turn right onto Seminary Street. Proceed up the hill to the Memorial Arch. Parking areas are located in the Visitor Lot behind the Center for Athletics and Wellness.



- 1 Memorial Arch
- 11 Center for Natural and Health Sciences Building
- P Visitor Parking

SECTION NEWS:

2016 LOCAL SECTION ELECTION:

Congratulations go to William Dougherty of Susquehanna University for being elected Chair-Elect for the 2016 calendar year. The section thanks Geneive Henry of Susquehanna University for her service as outgoing Immediate Past-Chair.

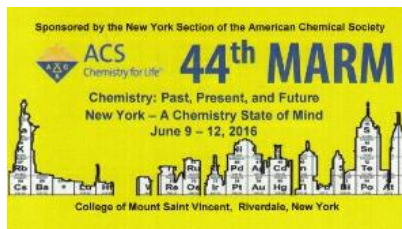
2016 CHEMISTRY OLYMPIAD:



U.S. National Chemistry Olympiad

The local 2016 U.S. National Chemistry Olympiad (USNCO) will be held on April 23 at Marywood University. If you know of a truly outstanding chemistry student please submit his or her name to our screening committee by the end of March. See the [website](#) for more details.

MARM 2016:



A call for abstracts has been issued by MARM 2016. The deadline for abstract submission is March 28. Use the following link for submission: <https://marm2016.abstractcentral.com/login>. The 44th MARM is scheduled for June 9-12, 2016 and is being hosted by the New York Section of the American Chemical Society. It will be held at the College of Mount Saint Vincent, Riverdale, NY. Many of the sessions have been planned and listed; see their [website](#) for more details.

LOCAL ACADEMIC TALKS:

Bucknell University announces their spring 2016 Chemistry Department Seminar Series. The schedule through February is listed below:

January 27 Dr. Andrew Murkin, University of Buffalo

“From Mechanism to Drug Design: New Methods and Applications of Isotope Effects in Enzymology”

February 3 Dr. Maria Panteva, Rutgers University

“Development and application of computational models for ion - nucleic acid interactions”

February 10 Dr. Bruce Palfrey, University of Michigan

“Surprises Still Emerging from Flavin Chemistry after Eight Decades of Scrutiny”

February 17 Dr. Ken Mills, Holy Cross

“The ins and outs of inteins: Conditional protein splicing”

February 24 Dr. Greg Beutner, Bristol Myers Squibb

“Using Physical Organic Chemistry to Solve Problems in the Pharmaceutical Industry”

NATIONAL ACS NEWS:

ACT4CHEMISTRY:

Legislation that may impact the chemical enterprise comes before Congress on a regular basis, and ACS is committed to keeping its members informed and encouraging them to weigh in on high-priority issues. One of the main ways the ACS does this is through Act4Chemistry. To learn more please visit their [website](#) or email advocacy@acs.org.

NATIONAL MEETINGS:

The 2016 spring national meeting will be held in San Diego, California from March 13-17. See the [website](#) for details and registration instructions.

The 2016 fall national meeting will be held in Philadelphia, Pennsylvania from August 21-25. Call for papers should be made at the end of January with a tentative deadline for submission on March 21.

Susquehanna Valley Section Web Page: <http://departments.kings.edu/SusquehannaValleyACS>

Please send any comments about the monthly newsletter to Ron Supkowski, Section Secretary
King's College 131 N River St Wilkes-Barre PA 18711 ronalsupkowski@kings.edu
